

December 2020

Position Statement on current IPC guidance and use of PPE for new COVID-19 variant strain (SARS-CoV-2 VOC 202012/01 and SARS-CoV-2 VOC 202012/02)

Situation

The identification of new strains of COVID-19 (VOC-202012/01 and VOC-202012/02) across parts of the UK has called into question whether the current Infection Prevention and Control (IPC) guidance, in particular, the Personal Protective Equipment (PPE)/ Respiratory Protective Equipment (RPE) recommended remains appropriate.

The UK IPC cell has been asked to provide a consensus position statement on whether any changes are required to the current IPC guidance.

This paper summarises the process and evidence which underpins the UK IPC cell decision to maintain the current recommendations for PPE as set out in the [IPC guidance](#)¹

Background

Current [IPC guidance](#)¹ for management of COVID-19 individuals within healthcare settings requires patients to be managed in one of three COVID-19 pathways (High, Medium or Low risk) with extended use of facemasks for staff and face coverings for patients/visitors in both clinical and non-clinical areas. There may be two pathway areas within a ward / department, and these may change on a regular basis

The [ECDC Threat Assessment Brief](#)² published in December 2020, estimated an increased transmissibility of up to 70% associated with the new variant strains of COVID-19 (VOC-202012/01 and VOC-202012/02), raising concerns about the efficacy of current IPC guidance and in particular, the recommended level of PPE/ RPE.

The IPC measures recommended within the pathways, including use of PPE, are underpinned by the [National Infection Prevention and Control Manual](#)³ practice guide and associated literature reviews. Guidance for the use of PPE, in particular, use of FFP3 respirators, is consistent with the [CDC Scientific Brief](#)⁴ epidemiology of SARS-CoV-2, which indicates COVID-19 is predominantly spread via respiratory droplets; and has the potential to spread via the airborne route when Aerosol Generating Procedures (AGPs) are undertaken. Thus, use of a FFP3 respirators is required when undertaking an AGPs on patients known or suspected to be infectious with COVID.

Assessment

A consensus meeting was held on 22/12/2020 with members of UK IPC-Cell (which includes all four devolved administrations) to review two papers^{5,6} on the transmissibility of the new COVID-19 variant strains and to form a consensus as to whether guidance for PPE required any change, in particular, whether FFP3 respirators should be recommended for wider use.

The Scientific Pandemic Influenza Group on Modelling (SPI-M) document⁵; Estimating the importance of different routes of SARS-CoV-2 transmission in hospital settings stated that *the most likely source of nosocomial transmission to health care workers (HCWs) was other infected HCWs* and that *the risk of a HCW acquiring COVID-19 from another HCW was similar to the risk of acquisition in the community*. In an email (email [REDACTED]), findings of work carried out to map COVID-related staff sickness against community acquired COVID suggesting that in areas where there the new variant is prevalent, there is no immediate evidence that staff sickness rates are higher than would be expected given the current community rates.

Current IPC guidance for the use of PPE and, in particular, use of FFP3 respirators, is based on droplet precautions as this is reported to be the principle mode by which people are infected with SARS-CoV-2 as detailed in [CDC Scientific Brief](#)⁴

Circumstances under which airborne transmission of SARS-CoV-2 appears to have occurred include; enclosed spaces, prolonged exposure and inadequate ventilation and are associated with outbreaks in non-healthcare facilities. However, this could, in part, be due to a seasonal related increase in social mixing². This view is echoed by [SAGE](#)⁷ which states “close-range transmission may be due to a combination of droplets and aerosols, as well as contaminated surfaces, and it is not yet possible to determine which mechanisms are dominating this transmission” and that “there is no evidence of long-range airborne transmission.”

The World Health Organization in their [Scientific Brief](#)⁸ also acknowledge that in poorly ventilated spaces, transmission through an airborne route cannot be ruled out, however ‘detailed investigations of these clusters suggest that droplet and fomite transmission could also explain human-to-human transmission.’ Poor adherence to mask use, physical distancing and hand hygiene would also increase the risk of droplet/contact transmission in these scenarios.

The [ARHAI Rapid Review of Literature](#)⁶ rapid review of literature concluded “there is currently insufficient evidence to ascertain if infection control precautions need to be altered in response to the emergence of the new COVID-19 strain”.

ECDC² concluded “there is no indication at this point of increased infection severity associated with the new variant” and that efforts to prevent and control the spread of the variant should reflect those of current guidance by reinforcing the importance of strict adherence to non-pharmaceutical interventions (NPI).

[SAGE](#)⁷ conclude that whilst fit-tested FFP3 respirators provide a higher level of protection to the wearer against aerosol transmission, **“the evidence that aerosol transmission is significant compared to other routes is not sufficiently strong to recommend that these are used in locations other than high risk clinical areas where aerosol generating procedures take place”**.

The MHRA [Central Alerting System \(CAS\)](#)⁹ supports the position of maintaining current IPC guidance and states: “current advice is that the mechanisms of transmission of both the novel variants of concern are the same as the wild-type SARS-CoV-2 and other variants in circulation. Therefore, it is extremely important that healthcare settings ensure that all current infection prevention and control measures are fully implemented, that appropriate personal protective equipment is readily available and worn by staff at all times, cleaning and ventilation protocols are followed and optimised”.

An [ECDC Rapid Risk Assessment](#)¹⁰ published 29/12/2020 states that in those countries where containment is no longer an option, action should include pursuing aggressive mitigation strategies and the stringent implementation of NPIs. The selection of NPIs should be determined based upon the overall levels of SARS-CoV-2 transmission, current healthcare capacity usage and careful assessment of the transmission dynamics of the new variant.

Following the IPC-Cell meeting, the four devolved administrations were asked (email [REDACTED]) to confirm if they wish to recommend the wider use of FFP3 respirators (in the absence of AGPs). The consensus view was, with no reported change in the evidence/science, there was no basis to support changing the UK IPC guidance at this time (Wales - email [REDACTED] Scotland - email [REDACTED] NI - email [REDACTED] and Ambulance Services- email [REDACTED])

Recommendations

The UK IPC-Cell agreed the following;

1. A review of current, available evidence has not identified a change in the mode of transmission between this variant strain and previous circulating strains of SARS- CoV-2 [IPC cell meeting notes 22nd and 23rd December].
2. No change to the PPE recommendations i.e. wider use of FFP3 respirators when AGPs not being performed.
3. Support for the sessional use of FFP3 in “AGP hot spot areas” in high risk areas.

4. To continue to monitor/review emerging evidence/science and data and update the IPC guidance if required
5. To strengthen the UK IPC guidance; reinforcing for example:
 - wearing of facemasks by all inpatients, at all times, across all care pathways, providing this is tolerated by the patient and not detrimental to medical/care needs.
 - highlighting adherence with the guidance must be considered across all Trusts/areas.
 - where possible (and not detrimental to care) limit patient movement in hospital settings.
 - highlight the need for rapid testing particularly in high or increasing prevalence areas for staff and patients.

A timeline detailing the decision making process in relation to this work can be found in Appendix 1

References

1. PHE August 2020. COVID-19: Guidance for the remobilisation of services within health and care settings. Infection prevention and control recommendations. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/910885/COVID-19_Infection_prevention_and_control_guidance_FINAL_PDF_20082020.pdf
2. ECDC. December 2020. Threat Assessment Brief. Rapid increase of a SARS-CoV-2 variant with multiple spike protein mutations observed in the United Kingdom. <https://www.ecdc.europa.eu/en/publications-data/threat-assessment-brief-rapid-increase-sars-cov-2-variant-united-kingdom>
3. NHS Scotland. National Infection Prevention and Control Manual: practice guide and associated literature reviews <http://www.nipcm.scot.nhs.uk/>
4. CDC Scientific Brief: SARS-CoV-2 and potential airborne transmission <https://www.cdc.gov/coronavirus/2019-ncov/more/scientific-brief-sars-cov-2.html>
5. ARHAI Scotland. A rapid review of the literature SARS-CoV-2 variant VUI-202012/01: Implications for infection control within health and care settings Dec 2020 https://hpspubsrepo.blob.core.windows.net/hps-website/nss/2985/documents/1_covid-19-rapid-review-ipc-for-covid-19.pdf
6. Scientific Pandemic Influenza Modelling (SPI-M) Approved summary document: Estimating the importance of different routes of SARS-CoV-2 transmission in hospital settings
7. NERVTAG/EMG: Role of aerosol transmission in COVID-19, 22 July 2020 (SAGE) <https://www.gov.uk/government/publications/nervtagemg-role-of-aerosol-transmission-in-covid-19-22-july-2020>
8. WHO Scientific Brief: Transmission of SARS-CoV-2: implications for infection prevention precautions <https://www.who.int/publications/i/item/modes-of-transmission-of-virus-causing-covid-19-implications-for-ipc-precaution-recommendations>
9. MHRA [Central Alerting System \(CAS\)](#) Immediate Actions in response to SARS-CoV-2 virus new variants of concerns. Dec 2020
10. ECDC Rapid Risk Assessment: risk related to spread of new SARS-CoV-2 variants of concern in the EU/EEA <https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-risk-related-to-spread-of-new-SARS-CoV-2-variants-EU-EEA.pdf>

Emails:

 (Scotland)  RE URGENT UK IPC guidance consensus b	 (Scotland)  RE URGENT UK IPC guidance consensus b	 (NI)  RE URGENT UK IPC guidance consensus b	 (Wales)  RE URGENT UK IPC guidance consensus b
  , Ambulance Services  RE_ OFFICIAL_ New Variant - Review of IP(	Email   FW_ OFFICIAL_ New Variant - Review of IP(	Email   URGENT UK IPC guidance consensus.n	Meeting notes <u>22/12/2020</u>  Notes from today's meeting.msg

Appendix 1. Decision making process timeline relating to communications/publication on PPE/REP use in light of COVID-19 new variants

*NIP: non pharmaceutical interventions			
DATE	SOURCE	KEY POINTS/SUMMARY	
18/12/2020	meeting on SARS-CoV-2 VUI	has moderate confidence that VUI-202012/01 demonstrates a substantial increase in transmissibility compared to other variants. recommends a joint is convened to provide further evidence on risk and risk mitigation measures for VUI 202012/01	
20/12/2020	ECDC Threat assessment	concludes that there is no indication of increased severity and that recommendations reflect current guidance and reinforce strict adherence to NPI measures	
20/12/2020		a) Investigation of novel SARS-CoV-2 variant. Variant of Concern 202012/01 b) Technical Briefing 2	
21/12/2020		Review of two papers: - ECDC Threat Assessment - minutes 18/12/2020 Conclude there is currently insufficient evidence to ascertain if IPC precautions need to be altered in response to the emergence of the new COVID-19 strain	
21/12/2020	email	review of regional graphs on staph absence to identify regional trends >8days and map against community rates	
23/12/2020	email	As discussed earlier today, please find below the position statement (red text) about not altering the IPC guidance wrt current PPE guidance. Rather, we are urging organisations to optimise the compliance with current IPC measures – to this end, clarification of the top 10 IPC actions (originally issued in mid-Nov), following a review by is being handled by office.	
22/12/2020	UK IPC Cell meeting	notes of meeting	
23/12/2020	email from	requesting confirmation	
23/12/2020	email	I raised this with our IPC colleagues here this morning on our regional IPC cell and agree with comments below. In the absence of robust evidence to support the move I feel that colleagues might think that they have not been appropriately protected with what has been previously recommended. We are not currently working to the remobilisation guideline but to the previous IPC guidance until we agree an implementation plan for NI	
23/12/2020	email	a) We do not support the extended use of FFP3 respirators in non AGP high-risk pathway at this point as currently there is no evidence to suggest a changed mode of transmission. has highlighted recent reviews and so if additional evidence emerges to suggest a change then that would be the point to revise. b) If it becomes necessary to recommend FFP3 and AGP PPE for COVID +ve care then it has significant implications for supply/fit testing/role out and need to be carefully thought and alerted to procurement/supply teams. c) As many amber pathways are being flipped to red the demand for stock will be high when we are aware FFP3 supply is less than FRSM. The management of PPE in other care settings re red care homes, social care etc and other services caring for COVID +ve need thought to prevent inequity. d) We would support re-emphasising the correct use and audit of the PPE in the clinical areas and appropriate management of PPE in the interface between clinical areas and extended mask use in communal areas. Also support	Would recommend that in response to new variant higher transmissibility that for medium risk pathway that eye protection/visor should be recommended in addition to FRSM all the time i.e. not risk assessed. Given that many of these amber cases are turning red with increasing nosocomial spread staff exposure in increasing Need to recognise increased need in frequency of cleaning and frequent/high touch points. Twice is not sufficient (happy to share our standards again) Also emphasise good practice in cohorting - bubbled contacts of a case not any contact of any case Protection of staff not just about PPE – priority vaccine to those working in COVID wards, lateral flow testing to detect staff cases, behaviour management Strengthen ventilation messages if we can Re-emphasise need to retrain/fit PPE for donning doffing
23/12/2020	email	My view is that as there has been no change in the evidence base to suggest a change in the transmission route there is no basis to change the PPE guidance. If there is a basis to change the PPE requirements in one area then this would apply to other areas, the rapid review did not identify a change in transmission route. In my view if we change the PPE guidance for one area there is an implication of a change in transmission which will create a further increase in anxiety for healthcare workers and present additional challenges in operationalising the guidance	
23/12/2020	Email	The evidence base has not changed regarding the route of transmission (https://www.cdc.gov/coronavirus/2019-ncov/more/scientific-brief-sars-cov-2.html) which states The principal mode by which people are infected with SARS-CoV-2 (the virus that causes COVID-19) is through exposure to respiratory droplets carrying infectious virus. There is no clear evidence of airborne transmission. The references provided at the end of the scientific brief largely consist of outbreak reports from restaurants, sports settings and a choir practice. There are unfortunately no air sampling studies to provide a more detailed analysis of these settings/scenarios. These reports have been described in the media as 'super-spreading events' where people are likely in close enough proximity and engaged in activities that would allow direct and indirect contact transmission from droplet production. This is in line with a summary by SAGE	'This close-range transmission may be due to a combination of droplets and aerosols, as well as contaminated surfaces, and it is not yet possible to determine which mechanisms are dominating this transmission... There is no evidence of long-range airborne transmission.' The World Health Organization in their 9th July scientific brief, also acknowledge that in poorly ventilated spaces, transmission through an airborne route cannot be ruled out, however state that 'the detailed investigations of these clusters suggest that droplet and fomite transmission could also explain human-to-human transmission.' Poor adherence to mask use, physical distancing and hand hygiene would also increase the risk of droplet/contact transmission in these scenarios
23/12/2020	Email from to	Further to IPC cell discussions yesterday, the IPC cell has today confirmed a consensus view that there is currently insufficient evidence to change the IPC/ PPE precautions in response to the emergence of this variant strain. The UK IPC cell, PHE have agreed to continue to monitor and review the emerging evidence and data and if this situation changes amend the guidance accordingly. The current evidence review has not identified a change in the mode of transmission between this variant strain and previous circulating strains of SARS-CoV-2 and therefore it was agreed that there should be no changes to the PPE recommendations as currently set out in the IPC guidance until more evidence/data is available. The IPC cell support the sessional use of FFP3 in "AGP hot spot areas" in high risk areas. The DA reps advised that they would make their respective senior leaders aware of the above.	
24/12/2020	CAS alert	"efforts to prevent and control the spread of the variant should mirror those effective in the early epidemic phase" Current advice is that the mechanisms of transmission of both novel variants of concern are the same as the wild-type SARS-CoV-2 And that healthcare settings ensure current IPC measures are fully implemented...that appropriate PPE is available and worn at all times	
29/12/2020	ECDC Rapid Risk Assessment	highlights the importance of NPI measures	